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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,472	09/25/2003	Myung Dae Oh	DPO-0007	4853

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Chantilly, VA 20153-1200

EXAMINER

SHAN, APRIL YING

ART UNIT	PAPER NUMBER
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2135

MAIL DATE	DELIVERY MODE
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01/14/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/669,472

Applicant(s)

OH, MYUNG DAE

Examiner

April Y. Shan

Art Unit

2135

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2007 and 05 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-8,11-20,23-26 and 29-54 is/are pending in the application.
- 4a) Of the above claim(s) 7-8, 11-20, 23-26 and 29-52 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6,53 and 54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. Claims 1-2, 5-6 and 53-54 have been examined.

Election/Restrictions

2. Applicant's election of Species 1 (Claims 1-2, 5-6 and 53-54) without traverse, in the reply filed on 5 October, 2007 is acknowledged.

Therefore, Claims 7-8, 11-20, 23-26 and 29-52 are hereby withdrawn from consideration.

Response to Amendment

3. The Applicant's amendment, filed 6 June 2007 has been received, entered into the record, and respectfully and fully considered.
4. As a result of the amendment, claims 1-2 and 6 have been amended. Claims 53-54 are newly added claims.
5. Any objections or rejections not repeated below for record are withdrawn due to Applicant's election/amendment.

Drawings

6. Figures 1-4 should be designated by a legend such as **--Prior Art--** because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 1-2, 5-6 and 53-54 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As per **claim 1**, "wherein the ciphering request is transmitted...said predetermined time based on a timing of generating of a key value for ciphering activation" is being added to the claim. On page 16 of the Applicant's remark, the Applicant listed paragraph [91] is the supporting paragraph to support this new limitation. The examiner respectfully disagrees after carefully reading the Applicant's original disclosure. On paragraph [91] of the original disclosure, the Applicant discloses "...during transfer of data means that the mobile communication terminal has already generated the key value for ciphering activation based on the RAND value to be prepared for the ciphering activation...is preparing for ciphering activation". "...is preparing for ciphering activation" does not mean "transmitted at a predetermined time" as recited in the claim. From the original disclosure, it only means that the ciphering

activation can be performed only if the network is prepared for ciphering activation. The time is not predetermined and in fact, there is no time involved at all according to par. [91] of the original disclosure. It simply implies that the network is ready for activation if the key is generated.

Any claim not specifically addressed, above, is being rejected as incorporating the deficiencies of a claim upon which it depends.

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. Claims 1-2, 5-6 and 53-54 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-2, 5-6 and 53-54 are directed to a method of ciphering call information transferred between a mobile communication terminal and network. The examiner respectfully asserts that the claimed subject matter does not fall within the statutory classes listed in 35 USC 101. The claimed steps do not result in a tangible result. Claims 1-6 and 13-19 are rejected as being directed to an abstract idea (i.e., producing non-tangible result) [tangible requirement does require that the claim must recite more than a 101 judicial exception, in that the process must set forth a practical application of

that 101 judicial exception to produce a real-world result, Benson, 409 U.S. at 71-72, 175 USPQ at 676-77).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claims 1-2, 5-6 and 53-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Al-Tawil et al. (IEEE publication "A new authentication protocol for

GSM network", published in 1998) in view of Arata et al. (European Patent publication number 0617528 A2, published on 28 September 1994).

As per **claim 1**, Al-Twail et al. discloses a method of ciphering call information transferred between a mobile communication terminal and a network, comprising:

transmitting a registration request from the terminal to the network ("Step 1: the MS transmits the registration request (location update) to the base station... The registration request includes the temporary mobile subscriber identity (TMSI) and LAI, steps 2-4 on page 22, right column and fig. 5 on page 23);

transmitting a ciphering authentication request message from the network to the terminal (e.g. fig. 2 on page 23 and "step 5: the VLR sends the RAND to the MS..." – e.g. page 22, right column. Please note VLR is part of the network as disclosed on pages 21-22 and MS corresponds to Applicant's terminal);

transmitting a ciphering authentication response message ("... the signed result (SRES) is returned" – e.g. page 22, lines 36-37. Please note SRES corresponds to Applicant's ciphering authentication response message) from the terminal to the network in response to the ciphering authentication request message ("step 6, the MS computes the SRES... then sends SRES back to the VLR..." – e.g. page 22, right column and fig. 5 on page 23); and

transmitting a ciphering activation completion message from the network to the terminal (e.g. fig. 5 on page 23 Please note "Set Ciphering" in fig. 5 corresponds to Applicant's a ciphering activation completion message) in accordance with the ciphering authentication response message ("Step 7: the VLR once receives the SRES from the

MS, compares it with the SRES provided from the AuC. If the two are equal, the MS passes the authentication process” – page 22, right column), Al-Twail et al. does not expressly disclose transmitting a ciphering request for call information from the terminal to the network.

Arata et al. discloses transmitting a ciphering request for call information from the terminal to the network (“When the user of a radio telecommunication apparatus requests a privacy mode and a call origination... sends a call signal including the requested privacy mode to a base station” – e.g. abstract)

Al-Twail et al. and Arata et al. are analogous art of the same field of mobile communication.

It would have been obvious for a person with ordinary skill in the art at the time of the invention to incorporate Arata et al.’s transmitting a ciphering request for call information from the terminal to the network into Al-Twail et al.’s method or replace Al-Twail et al.’s transmitting a registration request from the terminal to the network with Arata et al.’s transmitting a ciphering request for call information from the terminal to the network.

The motivation of doing so would have been to enable a caller/user to “sends a call signal including the requested privacy mode to a base station” and “use a privacy mode having a voice privacy feature which protects the user’s communicated voice signal against eavesdropping”, as taught by Arata et al. (abstract and col. 2, lines 40-43).

The combined teachings of Al-Twail et al. and Arata et al. discloses a method as applied above. Al-Twail et al. - Arata et al. further discloses wherein the ciphering request is transmitted at a predetermined time during transfer of data from the terminal to the network, said predetermined time based on a timing of generating of a key value for ciphering activation ("Step 6: the MS computes the SRES and the Kc locally using that RAND number...and **keeps Kc for later use**...The ciphering key Kc is used to cipher and decipher transmitted data...." - page 22, right column and fig. 5 – e.g. Al-Twail et al.)

As per **claim 2**, the combined teachings of Al-Twail et al. and Arata et al. discloses a method as applied above in claim 1. Al-Twail et al. further discloses wherein the ciphering authentication request message includes a RAND value ("a random number RAND is sent" – e.g. page 22, left column, lines 35-36) and wherein the key value is generated by the terminal based on the RAND value (page 22, right column)

As per **claim 5**, the combined teachings of Al-Twail et al. and Arata et al. disclose a method as applied above in claim 1. Arata et al. further discloses wherein the call information includes a voice information (e.g. col. 2, lines 40-43).

As per **claim 6**, the combined teachings of Al-Twail et al. and Arata et al. disclose a method as applied above in claim 1. Arata et al. further discloses wherein the call information includes said data (e.g. col. 2, lines 40-43).

As per **claim 53**, the combined teachings of Al-Twail et al. and Arata et al. disclose a method as applied above in claim 1. Al-Twail et al. – Arata et al. further discloses wherein the ciphering request is generated and transmitted without including a RAND value for ciphering activation (Al-Twail et al. - "step 1...step 2..step3.." on page 22, right column, section 4 on page 25 – page 27, left column 21, section 4.5 on page 28 and abstract in Arata et al.)

As per **claim 54**, the combined teachings of Al-Twail et al. and Arata et al. Al-Twail et al. – Arata et al. further disclose further comprising transmitting a ciphering deactivation request message from the terminal to the network during at a time when ciphered data is being transferred between the terminal and network. (e.g. Al-Twail et al., section 2, page 22, "The mobile station is **continuously listening**...Whenever the received LAI is different than the old LAI stored in its SIM card, the MS proceeds with a new registration... The registration starts..." and "Another advantage of the proposed scheme is that updating (deregistration) the old VLR is faster than the GSM approach" - e.g. Al-Twail et al. - page 29, right column)

Response to Arguments

14. Applicant's arguments filed 6 June 2007 have been respectfully and fully considered but they are not persuasive.

15. The Applicant argues on pages 14-16 that "such a method defines patentable subject matter under § 101", the examiner respectfully disagrees.

First, claims 1-2, 5-6 and 53-54 encompasses the **abstract idea** of transmitting a ciphering request, a ciphering authentication request message, a ciphering authentication response message and transmitting a ciphering activation completion message.

Second, though the Applicant argues on the remark on page 14, "Moreover, the result of this practical application is ciphered call information...", is merely transmitting the above messages without reciting step(s) of ciphering call information will reach this result of ciphering call information?

Therefore, claims 1-2, 5-6 and 53-54 appear to the examiner does not produce a useful, concrete and tangible result and is not directed to a practical application of the abstract idea.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to April Y. Shan whose telephone number is (571) 270-1014. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y. Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

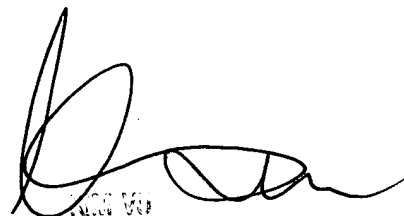
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AYS

23 December 2007
AYS

A handwritten signature in black ink, appearing to be a stylized 'B' followed by a cursive flourish.

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